

Problems in the Exploitation (xxx) 879  
of Mineral Ore Deposits, Moscow, Izd<sup>1</sup>vo AN SSSR, 1958, 251pp.

~~and American.~~

Agoshkov, M.I., Corresponding Member of the Academy of Sciences,  
USSR; Trumbachev, V.F., Candidate of Technical Sciences; and Mel'-  
nikov, Ye.A., Mining Engineer. Analysis of Stress Conditions and  
the Stability of Roofs and Interchamber Pillars in Areas of the  
Kursk Magnetic Anomaly

87

Nearly vertically dipping, tightly folded and compressed fer-  
ruginiferous quartzites are extracted by the chamber-pillar  
method with permanently remaining pillars. To test the ade-  
quacy of selected dimensions for both components an analytical  
method for extreme equilibria and suitable tests are presented.  
There are 16 figures, 4 tables, and 6 bibliographic references,  
of which 4 are Soviet and 2 American.

Spivakovskiy, A.O., Corresponding Member of the Academy of Sciences,  
USSR, and Smoldyrev, A.Ye., Candidate of Technical Sciences. Sta-  
tionary and Mobile Pneumatic Flushing Installations for Nonferrous  
Metal Mines

103

~~Card 5/11~~

Trumbachev V. F.

AUTHORS: Yershov, N. N., Trumbachev, V. F., Candidate  
of Technical Sciences 30-2-45/49

TITLE: Important Tasks of Mining Industry (Vazhneyshiye zadachi  
gornogo dela)  
Scientific Technical Conferences (Nauchno-tehnicheskiye  
soveshchaniya)

PERIODICAL: Vestnik AN SSSR, 1958, Nr 2, pp 115-118 (USSR)

ABSTRACT: The Institute for Mining of the AN USSR together with the Central Administration of the Scientific Technical Mining Society called a conference from November 20-23, 1957 in order to discuss problems of the building up and the exploitation of mining industries on sites with complicated hydrological and geological conditions (site of the magnetic anomaly Kursk). The conference was attended by representatives of scientific, industrial, and other organisations of the country, e.g. of a number of councils of political economy. The main aspects of these problems were discussed in plenary meetings held in three sections and the main tasks for the future were fixed. The conference took place under the chairmanship of L.D. Shevyakov.

Card 1/4 The following reports were given:

Important Tasks of Mining Industry.  
Scientific Technical Conferences

30-2-45/49

- 1) G.I. Man'kovskiy dedicated his report to the scientific investigations of mining on watered sites.
- 2) L.V. Popov reported on tasks of geological engineering for the opening of new sites.
- 3) A.G. Bobryshev reported on the hydrology of the Yakovlevo site and the magnetic anomaly Kursk.
- 4) M.I. Agoshko reported on the opening- and exploitation schemes of the Institute for Mining.
- 5) L.D. Shevyakov remarked that rational mining machines can be constructed only according to data of mining and geological engineers.
- 6) V.S. Luk'yanov reported on the method of hydraulic analogies in scientific investigations and technical computations.
- 7) O.A. Dolgov reported on the scientific methodology of exploitation by means of freezing.
- 8) D.S. Murav'yev reported on the washing of drilling sites which may open considerable reserves.
- 9) L.M. Sokovich within the section conducted by N.V. Mel'nikov reported on the application of computation methods of slope stability.

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Important Tasks of Mining Industry.  
Scientific Technical Conferences

30-2-40/49

- 10) N. Ya. Denisov reported on problems of the strength of various kinds of clay.
  - 11) I. Ye. Zhernov reported on drainage works.
  - 12) M. N. Kudryakov reported on the results of his official tour to Holland for the investigation of the experiences collected with drilling work there.
- It was found that many problems are still theoretically insufficiently elaborated and that the existing methodologies and research programs do not correspond any more to up to date requirements. The slow introduction of new technical equipment was equally criticized. The resolution was made to extend scientific work in the field of rock pressure, as well as the computation methods of stemples. Above all, the Institute for Mining of the AN USSR was charged with this task. From December 2-4, 1957 the Institute for Mining of the AN USSR organized a discussion of the problems of pressure in rock of horizontal and vertical structure. It was attended by representatives of academic and scientific branch research institutes, of universities, and industrial organisations. The following reports were given:
- 1) A. S. Kosmodominianskiy reported on the role of the anisotropy in the determination of stresses in massives.

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30-2-45/49

Important Tasks of Mining Industry.  
Scientific Technical Conferences

- 2) K.V. Ruppeneyt and Yu.M.Liberman reported on the investigation results concerning the influence of erosion on rock transport.
- 3) T. A. Kryzhanovskaya reported on the problem of rock pressure on stemples.
- 4) M.I.Rozovskiy and Zh.S.Yerzhanov reported on the methodology of laboratory determination of the creeping of rock.
- 5) B.M.Vinogradov reported on the measuring of rock pressure in railway and subway tunnels.
- 6) A.G.Barlas reported on the application on analytical methods for the investigation of stemples.
- 7) M.A.Komissarov, E.P.Lunov, A. M. Yanchur, A. I. Zuykov and others reported on the investigation of the phenomena of rock pressure in the coal pits of the Donets coal field and others.
- 8) P. Kvapil, Czech scientist, reported on his research work on mine damp. Shortcomings in the field of the investigation of physical mechanical properties of rock were found at this conference as well as weak contacts between practice and theory which should be improved by the extension of future research work and its co-ordination.

AVAILABLE:  
Card 4/4

Library of Congress  
1. Mining industry-USSR 2. Hydrology-USSR 3. Mining engineering-USSR

Trubimbauchev, V. I.

14(5) PLATE I BOOK EXPLOITATION 507/394  
Akademika Nauk SSSR. Institut gornoj dekol'zhi  
Nauchnoe proizv. nauchno-tekhnicheskikh i metodicheskikh  
rashodov po zadaniyu [Sovetskii Problemy v razvivayushchey poligoryach  
Material'nykh Depozitov] Moscow, Izd-vo Akad. Nauk SSSR, 1959. 333 p. 3,000.  
Rasp. Ns.: N.Y. Mal'nikov, Corresponding Member, USSR Academy of  
Sciences; M. M. of Publishing House: N.P. Yastil'yer; Tech. Ed.:  
F.I. Kachina.

PURPOSE: This book is intended for coal and ore mining engineers.  
COVERAGE: The collection of articles reports on the results of scientific studies conducted by members of the Institute of Mining, Institute of Coal, and one deposit. The book is divided into two parts. Part I deals with the development and exploitation of coal deposits. Part II deals with developing underground and surface exploitation methods for different natural conditions. The determination of the basic elements in the use of modern mechanized equipment in underground development and the preparation and exploitation of coal. Part II is devoted to problems in the development and exploitation of coal deposits, the draining and mining methods used in underground exploitation of deposits in the area of the Kuzbass (Kuznetsk Basin), the open pit mining method used in exploiting thin seam Kuzbass coal, the determination of size or one, further, ore dressing. The book is dedicated to Academician Lev Davidovich Shverdtov, mining engineer. The articles are accompanied by diagrams, tables, and bibliographic references.

PLATE OF CONTENTS:

	507/394
Sovetskii Problemy (Cont.)	507/394
Shverdtov, L.P. Certain Observed Regularities in Ground Swelling	103
in Preliminary Shaft Work in the Donbas	
Trubimbauchev, V.P. and I.A. Protoprin. Study of Wall Stress Con- ditions for Mechanized Support in the Kuzbass [Moscow Basin]	111
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Parameters for Coal Sharts	
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- Coal Exploitation of Flat Seams of Average Thickness	
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Card 4/7

Trubimbauchev, V. I., and Ya. A. Melnikov. Stress Distribution in

Chamber Roofs. *Izdatel'stvo Akademii Nauk SSSR*, Moscow, 1959. 274.

TRUMBACHEV, V.F., MOLODTSOVA, L.S.

Some similitude problems in the optical modeling of rock pressure.  
Fiz. mekh. svois., dav. i razr. gor. porod. no.2:153-163 '63.

(MIRA 17:1)

TRUMBACHEV, V.F., kand. tekhn. nauk; MEL'NIKOV, Ye.A., inzh.

Using the optical method to determine deformations in pillars.  
Nauch. soob. IGD 15:99-109 '62. (MIRA 17:2)

TRUMBACHEV, V.F., kand.tekhn.nauk; MEL'NIKOV, Ye.M., inzh.

Using models to study the distribution of strains in a block  
of untouched ore with weak interlayers in the Yakovlevo deposit  
(Kursk Magnetic Anomaly). Nauch.sob.Inst.gor.dela 5:50-56 '60.  
(MIRA 15:1)

(Belgorod Province--Iron ores--Testing)  
(Strains and stresses)

*Trumbaev - V.F.*

## PAGE 1 BOOK INFORMATION

807/562

Book by me produced: "Theoretical and Experimental Investigations of Strength of Machine Elements under Mechanical and Thermal Loads" (Strength of Machine Elements Collection of Articles No. 5). Moscow, Mashgiz, 1960. 500 copies printed. Brackets slip inserted.

M.I. V.P. [Candidate of Technical Sciences] Ed. of Publishing House:

L.M. Smirnov, Tech. Ed.; B.I. Mordvinov, Ed. for Literature on General Technical and Transport Machine Building (Manager);

Editorial Board: G.D. Gubkin, Doctor of Technical Sciences; Professor; V.M. Matutin, Candidate of Technical Sciences, Docent (Secretary);

B.B. Ponomarev, Honored Scientist and Technologist of the USSR, Doctor of Technical Sciences; Professor; S.V. Serebrenyi, Member of the Academy of Sciences, Doctor of Technical Sciences, Professor; S.I. Solntsev, Doctor of Technical Sciences, Professor; I.D. Tarashov, Doctor of Technical Sciences, Professor; and Yu.M. Shishonkov, Honored Scientist and Technologist of the USSR, Professor (Chairman).

NOTE: The book is intended for engineers and scientists specializing in stress analysis.

CONTENTS: This collection of 15 articles deals with the design and calculation of machine elements for strength, rigidity, and stability. The collection is divided into three sections: 1) calculations for strength, 2) stress and strain analysis, and 3) calculation for stability. Methods and formulas for calculating strength parameters are presented. No generalities are mentioned. References follow several of the articles.

Comments: V.P. [Candidate of Technical Sciences],  
"Investigation of Stress Distribution in Specimens Labeled Under Their Own Weight."  
Use of photoelasticity in determining the effects of stress concentration and the intensity and direction of the principal stresses in selected models are outlined.

## SECTION III. CHARACTERISTICS FOR STRENGTH LOAD

## AND FOR STABILITY OF CONSTRUCTIONAL ELEMENTS

Beloborodov, V.I. One Case of Stability Calculated for a Compressed Annular Disk

An individual case of experimental stress analysis is reported. It involves the loading of a compressed annular disk (circular plate). Critical load coefficients are defined and conditions for stability defined.

Frolov, I.I. [Candidate of Technical Sciences, Docent].  
"Stability Conditions for a Thin Cylindrical Shell Closed at Top and Under Lateral Hydrostatic Pressure."  
Stability conditions for a cylindrical thin-walled central shell exposed to hydrostatic pressure acting axially upon the cone are analyzed and load limits prior to buckling derived.

Belotin, V.P. [Doctor of Technical Sciences, Professor],  
"Investigation of the Phenomenon of Snap-Ins [local "Plastic" Loss of Stability] in Thin Shells Under the Impact of Dynamic Load."  
Local machine-shaping stresses affecting thin-walled plastic shells are analyzed and equations for stability conditions derived.

Sokolov, A.A. [Doctoral Student]. The Problem of Determining Critical Terminal Speeds of a Sheet of Variable Cross Section  
Values for critical speeds of a rotating sheet are derived and the effects of deflection forces analyzed.

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PAGE 1 BOOK REPRODUCTION 007/002

## Leningrad, Universitet.

Polarized ultrasonic-optically mixed isaldeformity suprarelativ; trudy konferencii  
13-22 fevralya 1958 goda (Optical Polarization Method for Stress Analysis)  
prinatsionie of the Conference of February 13-22, 1958). [Leningrad] 1958.  
Ukrainodrugo viss., 1958. 451 p. Kresta ilip inserted. 2,000 copies printed.

Inst. R. P. S. Poluborodko, Ed.; I. V. Shchegoleva, Tech. Ed.; S. D. Vodolazkin,

Editorial Board: Yu. G. Grinenko, M. M. Faddeev, N. S. Konkov, T. N. Kabanova,

N. I. Prigorovskiy, V. M. Proshkin, N. S. Romanov, and V. I. Shchegolev.

PURPOSE: This collection of 59 articles is intended for scientists and engineers  
concerned with experimental stress analysis of medium parts and structural  
components.

CONTENTS: The collection contains papers presented at the conference on optical  
polarization methods in stress analysis held February 13-22, 1958, in  
Leningrad and attended by 320 delegates including representatives of the People's  
Republic of China, the Polish People's Republic, the German Democratic Republic,  
and the Peoples' of Czechoslovakia. The report discusses general theoretical  
problems and new methods of investigation and describes experiments and materials  
used in the optical method. Relations of specific two-dimensional and three-  
dimensional problems occurring in investigating different design and con-  
structional features of various structures of heavy and precision machine tools, in mining,  
mining, industrial structures, railroad transport, in structural mechanics,  
geodesy, etc., are given. Relation of stresses to products of shear and viscosity  
of the method of photoelasticity is discussed and the use of this method for  
the solution of problems associated with plasticity, creep, dynamics, hydro-  
dynamics, etc., is demonstrated. Reports previously published elsewhere are  
printed here in unexpanded form. No personalities are mentioned. References  
are found at the end of 57 of the reports.

## Optical Polarization Methods (Cont.)

007/002

- 33. Rabinovitz, M. I. and V. A. Schuchman. On the Use of Silver  
Chloride for Recording Plastic Deformation Processes by Means  
of the Optical Polarization Method.
- 34. Matishov, R. A. Optical Method for Investigating Internalized States  
of Stress in Thin-crystallized Polymers
- 35. Kochnev, V. V. Modeling General Cases of Plastic Deformation of  
Metals in Poly-crystalline Silver Chloride
- 36. Komandur, A. S. Elastic Equilibrium of an Anisotropic Plate  
With a Central Plastic Core
- 37. Investigation of Metros and Geological Processes
- 38. Goryainov, M. I., D. J. Gordienko, and I. M. Krasnoshen. Use of the  
Optical Polarization Method in the Simulation of Geological Processes
- 39. Trunzberg, F. P. Use of the Optical Method for Investigating Stress  
Components Near Mine Explosions

Card 6/12

S/138/60/000/003/006/007  
A051/A029

AUTHORS: Lavrent'yeva, T.L.; Molodtsova, L.S.; Kirshentshteyn, N.I.; Trumbachev, V.F.

TITLE: The Polarization-Optical Method for Investigating Tensions in Sealing Parts

PERIODICAL: Kauchuk i Rezina, 1960, No. 3, pp. 37 - 40

TEXT: The distribution of stress in rubber sealing parts was studied by experiment. If the magnitude and distribution of the stress is known, new parts can be designed on a scientific basis and the existing models can be investigated. The applied polarization-optical method helps to investigate the stress distribution and magnitude depending on the size and shape of the part. References 3, 4 and 5 give details of this method. It is based on the fact that most transparent isotropic materials acquire under stress the property of double refraction, the magnitude of which is connected with the magnitude of the tension and can be measured with an optical apparatus. It is established that the difference of the velocities, and, therefore, the optical difference of the beam's path  $G$ , is proportional to the difference of the main normal tensions ( $\sigma_1 - \sigma_2$ ). The

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A051/A029

The Polarization-Optical Method for Investigating Tensions in Sealing Parts

following formula was derived:  $G = cd (\sigma_1 - \sigma_2)$ , where  $c$  is the optical constant of the material, determined experimentally,  $d$  is the thickness of the model. The authors made a study of the state of stress under different pressures of the medium depending on the design of the sealing and landing space and on the size and strength of the bracelet springs. Models made of optically-active material, i.e., iodantine prepared on a gelatin and glycerol base, were studied. The procedure is explained in detail and diagrammatic sketches of the parts studied are submitted. Figure 4 represents a diagram of the distribution of tangent tensions in the stuffing box at a pressure of 0.5 atm of the medium. Figure 5 shows the tangent tensions distributed in the stuffing box at a medium pressure of 1.5 atm. The experimental results are only preliminary, since it was impossible to produce a force in the models, which would simulate the tension at a significant pressure of the medium (1 atm or more). However, the results show the effectiveness of using the discussed method in designing sealing units. There are 5 diagrams, 1 table and 7 references: 6 Soviet and 1 English.

ASSOCIATION: Nauchno-issledovatel'skiy institut rezinovoy promyshlennosti (Scientific Research Institute of the Rubber Industry)

Card 2/2

TRUMBACHEV, V.F., kand. tekhn. nauk

Using the optical method in investigating stress distribution in  
specimens loaded with their own weight. Rasch. na prochn. no.5:226-  
235 '60. (MIRA 13:?)  
(Strains and stresses) (Photoelasticity)

TRUMBACHEV, V.F., kand.tekhn.nauk; MEL'NIKOV, Ye.A., gornyy inzh.

Greater use of optical methods for the study of strains in  
mining. Gor.zhur. no.7:77 Jl '60. (MIRA 13:7)

1. Institut gornogo dela AN SSSR, Lyubertsy, Moskovskoy  
oblasti.  
(Rock pressure) (Optical measurements)

ACC NR: AT7002110

(A)

SOURCE CODE: UR/0000/66/000/000/0254/0260

AUTHOR: Katkov, G. A.; Molodtsova, L. S.; Trumbachev, V. F.

ORG: none

TITLE: Determination of stresses and external loads on supports of underground equipment

SOURCE: Vsesoyuznaya konferentsiya po polyarizatsionno-opticheskemu metodu issledovaniya napryazheniy. 5th, Leningrad, 1964. Polyarizatsionno-opticheskiy metod issledovaniya napryazheniy (Polarizing-optical method of investigating stresses); trudy konferentsii. Leningrad, Izd-vo Leningr. univ., 1966, 254-260

TOPIC TAGS: photoelasticity, stress analysis, pressure transducer, structural engineering, epoxy plastic, underground facility

ABSTRACT: Photoelastic strips (transducers) made of ED6-M epoxy were used to study the stress conditions on underground equipment supports during operations. Rectangular transducers  $50 \times 25 \times 2$  mm,  $40 \times 20 \times 2$  mm, and discs of 30 mm diameter were glued at different locations. The best glue compositions were given along with the optimum curing conditions. The ED6-M epoxy had an elastic modulus of  $30,000$  kg/cm<sup>2</sup>, a Poisson ratio of 0.37, and a sensitivity which allowed deformations as low as  $2 \cdot 10^{-5}$  to be measured. Stresses were measured from the values of birefraction. An equation

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ACC NR: AT7002110

was given for the difference in principle stresses  $\sigma_1 - \sigma_2$  as a function of the relative change in the light path, thickness of the transducer, optical stress coefficient of the transducer material, and the elastic constants of the structure. A portable polariscope which was used in measuring the changes in light path was shown. A photograph was given showing the locations of the transducers on different supports of underground digging equipment of the M-81 and MKP type. Axial loads and bending moments were determined at these locations. The analysis showed that the load in the lower elements of the supports varied between 3.5 and 5.5 tons. The load on the arms was 8.7 tons corresponding to a stress of 2.9 tons/m<sup>2</sup>. The stress along the frame of the support varied widely, reaching as high as 16 kg/cm<sup>2</sup> near arm junctions. A schematic drawing was shown of the locations of photoelastic transducers along the mechanized supports of the MKP. The stress profile along the roof of the MKP showed that the stress exceeded 15 tons/m<sup>2</sup> at one location. This technique could be used to measure absolute or relative stresses in supports or surrounding mountain rock. Orig. art. has: 4 figures, 2 formulas.

SUB CODE: 13,11/ SUBM DATE: 14Jun66/ ORIG REF: 003

Card 2/2

ACC NR: AT700210

(A)

SOURCE CODE: UR/0000/66/000/000/0423/0432

AUTHORS: Mol'nikov, Ye. A.; Trumbachev, V. F.

ORG: none

TITLE: Principal results and trends in application of the optical method of investigating stresses in the mining industry

SOURCE: Vsesoyuznaya konferentsiya po polaryatsionno-opticheskому metodu issledovaniya napryazheniy. 5th, Leningrad, 1964. Polaryatsionno-opticheskiy metod issledovaniya napryazheniy (Polarizing-optical method of investigating stresses); trudy konferentsii. Leningrad, Izd-vo Leningr. univ., 1966, 423-432

TOPIC TAGS: stress analysis, mining engineering, optic analysis

ABSTRACT: In recent years, optical studies of stress have been made on two- and three-dimensional models representing various tunnels and other mine workings. These studies are reviewed by the authors. It is pointed out that the most convincing argument in favor of the optical method in studying the stress state in rocks is comparison of results thus obtained, using models of optically active material, with actual measurements in mines. Several figures are given to show the agreement between the two sets of data. It is concluded that the optical method is well suited to the study of rock pressure but that it has been little used because of inadequate

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ACC NR: AT7002120

development of techniques. The method has been used even less commonly in studying other mining problems. Objectives in developing the method should include improvement of techniques in making model studies. Primarily this involves the necessity of producing new, improved, optically active material to simulate rocks in all their various properties. The stress distribution about mine workings must be investigated in more detail in order to work out all the problems relative to optimum size, shape, and spacing of tunnels and other workings, relative to the effects at contacts with supports, relative to the stability of walls, and so forth. Photoelastic coatings may be of considerable value, but they cannot replace the function of optically active material. More experimental work and comparison with actual measurements in mines are needed. Orig. art. has: 3 figures. (W. A. 101)

SUB CODE: 20, 08/ SUBM DATE: 14Jun66/ ORIG REF: 021/ OTH REF: 005

Card 2/2

TRUMBACHEV, V.F.; MOLODTSOVA, L.S.

Studying the stressed state of rocks around mine workings with the help  
of the optical method. Vop. gor. da. l. no.17:55-85 '63. (MIRA 18:9)

1. Institut gornogo dela imeni Skochinskogo.

KATKOV, G.A.; TRUMBACHEV, V.F.

Use of models in studying the interaction of the top covering  
of powered supports with the roof rocks. Fiz.-tekhn. probl.  
razrab. pol. iskop. no.1:25-31 '65. (MIRA 18:10)

1. Institut gornogo dela im. A.A. Skochinskogo, Moskva.

"APPROVED FOR RELEASE: 03/14/2001

CIA-RDP86-00513R001756820007-5

TRUMBACHEV, V.F.; MOLODTSOVA, L.S.; KATKOV, G.A.

Procedure and results of using the method of photoelastic coatings in  
investigating the stressed state of rocks and various structures. Vop.  
gor. davl. no.18:70-86 '63. (MIRA 18:7)

APPROVED FOR RELEASE: 03/14/2001

CIA-RDP86-00513R001756820007-5"

KHAIMOVA-MAL'KOVA, R.I.; TRUMBACHEV, V.F., otv. red.; POLYAKOVA,  
Z.V., red.

[Methodological manual on investigating stresses by the  
optical method] Metodicheskoe rukovodstvo po issledovaniiu  
napriazhenii opticheskim metodom. Moskva, In-t gornogo de-  
la im. A.A.Skochinskogo, 1963. 66 p. (MIRA 18:4)

TRUMBACEV, V.R. [Trumbachev, V.F.], DrSc.; CHAJMOVA-MALKOVA, R.I. [Khaymova-Malkova, R.I.], inz.

Effect of the coefficient of lateral resistance on the stability of mine openings. Uhli 7 no.1:31-34 '65.

1. A.A.Skochinskiy Institute of Mining, Moscow.

TRUMBACHEV, V. F.; MELNIKOV, Ye. A.

"Distribution of Stresses in the Intervening Pillars at Medium and Steep Dips."

paper to be presented at the Intl Mineral Dressing Conf, New York City, 20-24 Sep 64.

Inst of Mining Affairs im A. A. Skochinskiy, Moscow.

TRUMBACHEV, V.F.; MEL'NIKOV, Ye.A.

"Distribution of stresses in the intervening pillars at medium  
and steep dips."

Report to be submitted for the 4th Intl. Conference on Strata  
Control and Rock Mechanics New York, 4-8 May 1964.

MAKSIMOV, Aleksandr Pavlovich; KATSAUROV, I.N., kand. tekhn. nauk,  
retsenzent; TRUMBACHEV, V.F., doktor tekhn. nauk, otv. red.;  
CHERNEGOVA, E.N., red.izd-va; LOMILINA, L.N., tekhn. red.

[Bulging of rocks and the stability of underground workings]  
Vydavlivanie gornykh porod i ustoichivost' podzemnykh vyrabotok.  
Moskva, Gosgortekhizdat, 1963. 143 p. (MIRA 16:12)  
(Rock pressure) (Mining engineering)

"APPROVED FOR RELEASE: 03/14/2001

CIA-RDP86-00513R001756820007-5

TRUMBACHEV, V.F., kand. tekhn. nauk; MEL'NIKOV, Ye.A., inzh.

Distribution of pressure in intermediate and barrier pillars.  
Mauch. soob. IGD 11:76-83 '61. (MIRA 16:4)

(Mining engineering) (Rock pressure)

APPROVED FOR RELEASE: 03/14/2001

CIA-RDP86-00513R001756820007-5"

BARON, L.I.; TRUMBACHEV, V.F.

Study of models of the distribution of stresses generated in a  
medium by the activity of the pressure on the walls of a  
charged chamber. Varyv.rab. no.3:34-59 '56. (MIRA 16:2)  
(Blasting) (Strains and stresses)

TRUMBACHEV, Vladimir Fedorovich; MOLODTSOVA, Lyudmila Semenovna;  
LIPERMAN, Yu.M., kand. tekhn. nauk, otv. red.; KOSTAN'YAN,  
A.Ya., red.; RYLINA, Yu.V., tekhn. red.

[Using the optical method to study the stress state of rocks  
around mine workings] Primenenie opticheskogo metoda dlia is-  
sledovaniia napriazhennogo sostoianiiia porod vokrug gornykh  
vyrabotok. Moskva, Izd-vo Akad.nauk SSSR, 1963. 93 p.  
(MIRA 16:5)

(Rock pressure--Models) (Photoelasticity)

MATVEYEV, V.A. (Moskva); TRUMBACHEV, V.F. (Moskva); KHAIMOVA-MAL'KOVA, R.I.  
(Moskva)

Determining rock deformation allowing for cleavage and stratification  
in the vicinity of stopes. Izv. AN SSSR. Otd. tekhn. nauk.  
Met. i topl. no.1:171-179 Ja-F '62. (MIRA 15:2)  
(Mining geology)  
(Rock pressure)

TRUMBACHEV, Vladimir Fedorovich; MEL'NIKOV, Yevgeniy Andreyevich; RUP-  
PENET, K.V., otv. red.; RATNIKOVA, A.P., red. izd-va; IL'INSKAYA,  
G.M., tekhn. red.

[Pressure distribution in interchamber pillars and untouched blocks  
of ore] Raspredelenie napriazhenii v mezhdukamernykh tselikakh i  
potolochinakh. Moskva, Gos. nauchno-tekhn. izd-vo lit-ry po gor-  
nomu delu, 1961. 102 p.  
(Mining engineering)

(MIRA 14:9)

TRUMBACHEV, V.G.; SUVOROV, N.A.

Data on the optical investigation of stresses in mine models. Trudy  
Inst.gor.dela 1:102-108 '54.  
(Mining engineering) (Engineering models)

(MIRA 7:12)

TRUMIC, P. and VLATKOVIC, B.

"Development of Trypanosoma Equiperdum in the Body of a Ground Squirrel  
(Citellus Citillus) during Hibernation" p. 19  
(ZBORNIK RADOVA, Vol. 25, no. 2, 1952, Beograd, Yugoslavia)

SO: Monthly List of East European Accessions, Library of Congress, Vol. 2,  
No. 10, October, 1953, Unclassified

TRUMIC, P.

"Effect of Sodium Chloride, Temperature, and Ethylene Blue on the Development  
of Trypanosoma Equiperdum" p. 173  
(ZBORNIK RADOVA, Vol. 25, no. 2, 1952, Beograd, Yugoslavia)

SO: Monthly List of East European Accessions, Library of Congress, Vol. 2,  
No. 10, October, 1953, Unclassified

YUGOSLAVIA

TRUMIC, P., and PANJEVIC, Dj., Institute and Clinic of Infectious Diseases  
(Institut i Klinika za Zaraze).

"Contribution to the Study of the Effect of Microelements on the Immunogenic Response of Guinea Pigs, I: CuSO<sub>4</sub>."  
Belgrade, Acta Veterinaria, Vol 13, No 1, 1963, pp 23-28.

Abstract: [Authors' English summary modified] Copper was added to oats in a 0.1-percent solution of CuSO<sub>4</sub> for 19 hours, the resulting mixture being fed to the guinea pigs from a month before infection until the end of the experiment. The guinea pigs in the first group were inoculated with five milliliters of live culture of *B. abortus* Bang, those in the second with the same dose of the killed culture. The weight and level of the antibodies in the serum were examined weekly. Boguth paper electrophoresis was used to review the ratios of the serum protein fractions at two-week intervals. The authors concluded on the basis of the experiment that the addition of minimal amounts of copper sulfate to the bodies of the guinea pigs stimulated weight increases and globulin synthesis, with an extremely favorable effect on the intensity and duration of immunity. Four tables, four references (three Western, one Yugoslav).

1/1

YUGOSLAVIA

TRUMIC, P., Dr. Prof. Veterinary Faculty (Veterinarski Fakultet), Belgrade

"Epizootiologic Service and Its Organization"

Belgrade, Veterinarski Glasnik, Vol 20, No 10, 1966, p. 731-732

Abstract: Exhortatory and indignant comments regarding the "unprecedented sum of billions of damage" suffered by the national economy in Yugoslavia in 1965 due to animal contagious diseases. The "chaos" in animal marketing as described in the newspaper Politka numbers 18888 and 18901 of 7 May 1966 and 20 May 1966, is declared to be intolerable, and a reorganization of the veterinary service on a national rather than any sectional basis is imperative. Manuscript received 12 Jul 66.

YUGOSLAVIA

TRUMIC, P.; TURUBATOVIC, R.; and PANJEVIC, Dj., Institute of Preventive Veterinary Medicine (Institut za Preventivnu Veterinarsku Medicinu), Belgrade.

"The Effect of Subsequent Infections on Immunity Against Hog Cholera."

Belgrade, Acta Veterinaria, Vol 13, No 1, 1963, pp 11-17.

Abstract: [Authors' English summary modified] On the basis of previous experiments (cf. same journal, Vol 12, No 1, 1962, pp 31-41) and of two more experiments with a total of 35 hogs, the authors conclude that immunity against hog cholera remains effective only if the vaccinated hogs are completely healthy, are not infested with parasites or E. coli and Proteus sp., and are maintained in optimal circumstances; that two types of vaccines (with inactivated and attenuated viruses) must still be produced under Yugoslav conditions; the choice depending on health circumstances and epizootiology; that later infection with E. rhusio-pathiae unfavorably affects immunity derived from crystal violet vaccine but has little or no effect on immunity derived from the attenuated virus; and that simultaneous vaccinations with crystal violet vaccine and erysipel bacterin do not influence immunity against hog cholera. Two tables, two recent Yugoslav references.

1/1

71  
F. L. M. 1972

J. R. MITC and D. ALEXANDER, Department of Microbiology, University of Minnesota, Minneapolis, Minnesota 55455, USA.

Journal of Immunology, Infectious Diseases, 1972, 109, 1001-1008.

Seligman, Neoplasma, Groningen, Vol. 17, No. 17, 1972, p. 1001.

Abstract: Immunological mechanisms of piglet diarrhea: An old disease, mainly an infantile one, caused by various enteric viruses. Lactose is absorbed at all ages normally, except in young invaders in animals considered weak by some authors such as hepatitis C, cholera which is discussed to great extent, describing natural observations supporting their contention. Preventive measures are outlined on the basis of these etiological concepts. Five references.

1/1

YUGOSLAVIA

TRUMIC, P., Dr., Professor, Belgrade

"How Can Epidemics of Animal Diseases Occur

Belgrade, Veterinarski Glasnik, Vol 20, No 9, 1966, pp 679-681

Abstract: Using examples of Q-fever (due to Rickettsia s. Coxiella Burnetti), Aujeski's disease (Paralysis bulbaris infectiosa or Pseudolyssa), and American and African hog plague, the author discusses the problem of combating those animal diseases which following a relatively dormant existence in remote regions of the globe mushroom into epidemics. In view of the permanent danger of new possible epidemics, the author pleads for the maintenance of a well organized epizootological service. No references. (Manuscript received, 12 Jun 66.)

1/1

Trumic, APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001756820007-5"

Trumic, Petar. Zaraze Domacihivotinja. 2., prir. izd. Beograd, Naučna knjiga.  
(Contagious diseases of domestic animals. 2d rev. ed. illus., diagrs.)  
Vol. 1 1952.  
CU Not in DLC.

SO: Monthly List of East European Accessions List (EEAL) LC, Vol 4, No. 11  
November 1955, Uncl.

COUNTRY	: YUGOSLAVIA
CATEGORY	: Chemical Technology, Chemical Products and Their Applications, Food Industry
ASS. JOUR.	: ZEMIN., No. 23 1959, No. 83960
AUTHOR	: Trunec, Z.
ISSN	: -
TITLE	: Practical Sterility of Meat Preserves
ORIG. PUP.	: Temnik, 1958, 13, No 3, Prehran. ind., 12, No 3, 39-42
ABSTRACT	: Reviewed are factors, that determine practical sterility of preserves and that prevent ream- ching their absolute sterility; Discussed are problems of heat penetration into the preser- ves' contents. Heat stability of certain indi- vidual microorganisms types is established.
CARD:	1/1
	H - 124

TRUMAN, K.

Standardizing the consumption of materials for the maintenance of mines.

P. 348. (UHLI.) (Praha, Czechoslovakia) Vol. 7, No. 10, Oct. 1957

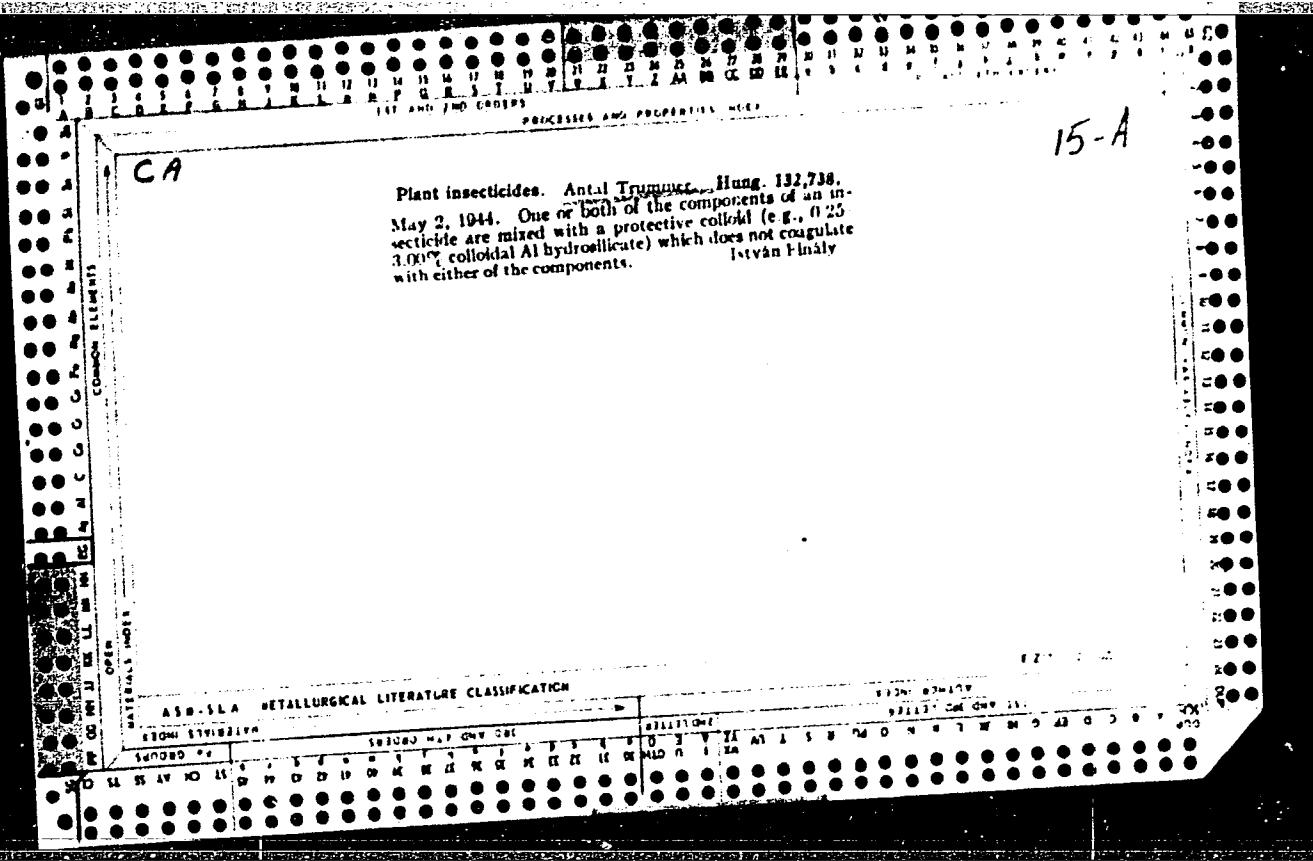
SO: Monthly Index of East European Accession (EEAI) LC. Vol. 7, No. 5, 1958

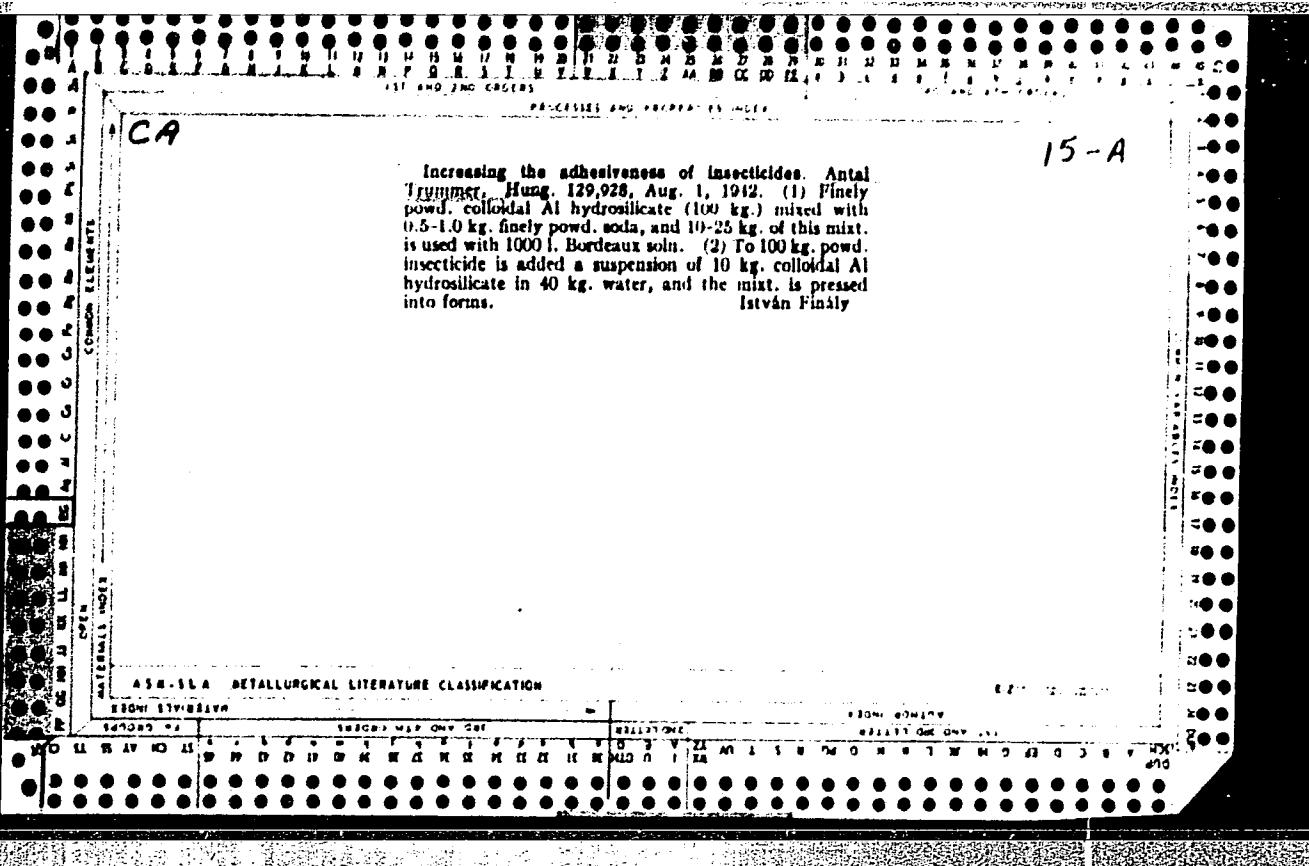
"APPROVED FOR RELEASE: 03/14/2001

CIA-RDP86-00513R001756820007-5

APPROVED FOR RELEASE: 03/14/2001

CIA-RDP86-00513R001756820007-5"





Pigments of high covering and adhesive powers. Antal Trummer. Hung. 132,739. May 2, 1944. One or more of the components is mixed with a protective colloid (e.g. 1-10% colloidal Al hydrosilicate) which does not coagulate with either of the components. István Finály

TRUMMER, ISTVAN

HUNGARY/Optics - Optical Methods of Analysis

K-8

Abs Jour : Ref Zhur - Fizika, No 2, 1958, No 4790

Author : Trummer Istvan

Inst : Not Given

Title : Theoretical Foundations of Modern Spectrophotometry.

Orig Pub : Fiz. szemle, 1954, 4, No 5, 138-148

Abstract : Survey. Bibliography, 26 titles.

Card : 1/1

"APPROVED FOR RELEASE: 03/14/2001

CIA-RDP86-00513R001756820007-5

APPROVED FOR RELEASE: 03/14/2001

CIA-RDP86-00513R001756820007-5"

TRUMMER, I.

Ultraviolet spectrophotometric determination of phenols and pyridine in gas liquor.  
p. 307. (Magyar Kemiai Folyoirat, Budapest, Vol. 60, no. 10 Oct. 1954)

SO: Monthly list of East European Accessions (EEAL), LC Vol 4, No. 6, June 1955, Unclassified

"APPROVED FOR RELEASE: 03/14/2001

CIA-RDP86-00513R001756820007-5

HUNG 4

✓ 3853. ULTRA-VIOLET SPECTROSCOPIC ESTIMATION OF PHENOLS AND PYRIDINE  
IN GAS LIQUOR. Trusser, I. (Mag. chem. Poly. Hung. Chem. J.J., 1954,  
vol. 60, 307-311).

APPROVED FOR RELEASE: 03/14/2001

CIA-RDP86-00513R001756820007-5"

FRACKOWIAK, D.; TRUMPAKAJ, Z.

Polarization of fluorescence of chlorophyll  $\alpha$ . Bul Ac Pol mat  
12 no. 3:183-187 '64

1. Department of Physics, N. Copernicus University, Torun. Presented  
by A. Jablonski.

TRUMPAYTIS, YA. I.

Workshops - Heating and Ventilation

Standardization of radiant heating during rest periods in industrial enterprises  
with positive subnormal temperatures. Gig. i san. no. 7, L752.

9. Monthly List of Russian Accessions, Library of Congress, November 1953. Unclassified.  
2

"APPROVED FOR RELEASE: 03/14/2001

CIA-RDP86-00513R001756820007-5

TRUPPAYES, Ya.

industrial overalls. Lots. Prod. no. 6:59-63. Je '58. (CIA 11:6)  
(Overalls)

APPROVED FOR RELEASE: 03/14/2001

CIA-RDP86-00513R001756820007-5"

TRUMPAYTS, Ya. I.

Problem of normalization of radiant heat during rest in industrial environment in subnormal temperatures. Gig. sanit., Moskva no.7:27-34 July 1952. (CLML 23:2)

1. Of Leningrad Scientific-Research Institute for the Protection of Labor VTsSPS.

KOYRANSKIY, B.B., prof.; TRUMPAYTS, Ya. I., prof.

Local legislation for work in the open air during the cold season  
of the year. Gig. i san. 28 no.6:86-92 Je'63 (MIRA 17:4)

1. Iz Leningradskogo instituta gigiyeny truda i professional'nykh zabolevaniy i Instituta okhrany truda Vsesoyuznogo tsentral'nogo soveta professional'nykh soyuzov.

TRUMPAYCO, Ya. T.

Temperature - Physiological Effect

Standardization of radiant heating during rest periods in industrial enterprises with positive subnormal temperatures., Gig., i san., no. 7, 1952.

9. Monthly List of Russian Accessions, Library of Congress, November 1954. Unclassified.  
2

TRUMFAYTS, Ya. I.

Meteorological Abst.  
Vol. 4 No. 11  
Nov. 1953  
Climatology and  
Bioclimatology

4.11-252

551 584.61

Trumfayts, Ya. I., K voprosu o normirovani luchistogo obogreva vo vremia otdekha v proizvodstvennykh pomeshcheniakh s subnormal'nymi polozhitel'nymi temperaturami. [The problem of regulating radiant heating during the rest period in working rooms with subnormal, positive temperatures.] *Gigiena i Sanitariya*, 7:27-34, July 1952. 6 figs. DLC The relationship between indoor temp. in work rooms and outside temp. during the different seasons and the problem of maintaining normal temp. in work rooms when the air temp. is positive but subnormal, are discussed. Experimental observations under laboratory conditions on use of local radiant heating in work rooms with air temp. of 0 to 10°C are summarized. The intensity of radiation in various parts of the body and the temp. of these parts at air temp. of 10° and 18°C were measured and the data presented graphically. *Subject Headings:* 1. Indoor climates 2. Industrial climatology 3. Radiant heating. --I.L.D.

STEMPROKOVÁ-JIROVÁ, P.; TRUMPER, E.

Comparison of the stratigraphic distribution of the Ctenostominae  
genus in the Bohemian Cretaceous and the German boreal facies.  
Cas. min. geol. 9 no. 4:471-472 '64.

1. Faculty of Natural Sciences of the Charles University, Prague  
(for Stempoková-Jirová). 2. Central Geological Institute,  
Berlin (for Trumper). Submitted November 23, 1963.

CHENILLE/WAVER

STENPROKOVA-JIROVA, D; TRUMPER, E.

1. Natural Sciences Faculty of Charles University (Prirodovedecka fakulta Karlovy) university), Prague (for Stenprokova-Jirova; 2. Central Geological Institute (Zentrales Geologisches Institut), Berlin (for Trumper)

Prague, Sociedad pro mineralogii et geologiae, No 4, 1964, pp 471-472

"The Correlation of stratigraphical distribution of *Micr. Iocina* in the Bohemian and German Lower Cretaceous."

( S/115/60/000/02/023/031  
D002/D003

AUTHOR: Trumpold, H., Doctor-Engineer

TITLE: Interference Methods for Measuring the Surface Roughness

PERIODICAL: Izmeritel'naya tekhnika, 1960, Nr 2, pp 52-57 (USSR)

ABSTRACT: This is a paper by H. Trampold of the Vysshaya tekhnicheskaya shkola (Higher Technical School) in Karl-Marxstadt, Soviet Zone of Germany, read at the MVTU imeni Baumana (MVTU imeni Bauman), and prepared for this journal by O. Ya. Yegor'yev. It deals with the principle of interference systems (Figure 1) by Linnik (division of rays between the objective and the eyepiece), W. Krug and E. Lau [Ref 6-7 (division of rays between the objective and the object)], and by Rule, improved by Tolanskiy (multi-ray interference). The first two represent microscopes working in reflected light together with Maykel'son's interferometer (two-beam interference). A special interference attachment (Figure 2) was built for the usual

Card 1/3

S/115/60/000/02/023/031  
D002/D003

Interference Methods for Measuring the Surface Roughness

microscopes, by means of which it is easy to check the surface smoothness, giving a very good two-beam interference image. The attachment is used for measuring the roughness of inner surfaces in bores up to 15 mm deep and 5 mm and more in diameter. Some devices of the Rule system have also been developed, e.g. the portable device by K. Zeiss, Jena, with a general magnification of 136<sup>x</sup>, a stationary device with variable magnification from 70 to 340<sup>x</sup>, the first for cambered, the latter for flat surfaces. In order to extend the application field of interference methods, Krug and Lau developed a procedure of "equidensities", consisting in a special preparation of the photograph of the interference figure obtained by means of the microinterferometer. Nonsensibilized Agfa-Printon films and "Agfa-75" developers are recommended for this purpose. The Zehnder method [Ref 8] for extending the application field, is also mentioned.

Card 2/3

S/115/60/000/02/023/C31  
D002/D003

Interference Methods for Measuring the Surface Roughness

There are 3 diagrams, 3 sets of photographs, and 9 references, 3 of which are Soviet, and 6 German.

Card 3/3

✓

OLSZEWSKI, Zenon, doc. dr; TRUMPOWSKA, Maria

Value of Extractum Malti spissum with relation to the germination  
time and type of barley. Farmacja Pol 19 no.10:209-211 25. Mj '63.

1. Katedra Farmacji Stosowanej, Akademia Medyczna, Wrocław. Kierownik:  
doc. dr Olszewski.

POLAND

OLSZEWSKI, Zenon and TRUMPOWSKA, Maria, Chair of Applied Pharmacy (Katedra Farmacji Stosowanej), Medical Academy (Akademia Medyczna) in Wroclaw (Director: Docent Dr. Z. OLSZEWSKI)

"Value of Malt Extract in Dependence on Time of Germination and Variety of Barley."

Warsaw, Farmacja Polska, Vol 19, No 10, 25 May 63, pp 209-211

Abstract: The authors discuss the varieties of barley used to obtain malt and report findings of a study they made with 2-rowed and 4-rowed varieties of barley. They found that thick malt obtained from 4-rowed barley falls within the requirements of Polish Pharmacopea III, and not merely the 2-rowed as specified there. They also found that optimum germination time is six (6) days. There are 14 Polish references.

1/1

ZDANOWICZ, W.; TRUMPOWSKI, B.

Thermoelectric properties of  $Cd_{3-x}Zn_xA_{2-x}$ -type solid solutions.  
Acta physica Pol 26 no.6:1205-1210 '64

1. Department of Physics of Wroclaw Technical University.  
Submitted June 16, 1964.

SOV/84-58-5-6/57

AUTHOR: Trunchenkov, I., Engineer

TITLE: Arrangement of Cabins (Komponovka kabin)

PERIODICAL: Grazhdanskaya aviatsiya, 1958, Nr 5, pp 8-9 (USSR)

ABSTRACT: The article describes the arrangement of compartments and cabins in the new version of the An-10 airliner, the An-10A. It shows how an aircraft originally designed to seat 84 was modified to carry 100 passengers. A diagram and three photographs accompany the text.

1. Civil aviation    2. Airplanes--Design    3. Pictures    3. Aircraft  
cabins--Design

Card 1/1

TRUNCHENKOV, N. S.

Regulirovka i zapusk letaiushchikh modelei. Tuning and starting of airplane models.  
Moskva, Doearm, 1950. 41 p. (Biblioteka iunogo konstruktora) (50-34219)

TL770.T75

1. Aeroplanes - Models.

69764

TRUNCHANKOV, N. S.

Motornaya partiashchaia model' samoleta [ Flying model airplane with motor.]  
Moskva, DOSAAF, 1952. 52 p.

SO: Monthly List of Russian Accessions, Vol. 7 No. 2 May 1954.

TRUNCHENKOV, N. S.

7862. TRUNCHENKOV, N. S. Kak stroit' letayushchiye modeli. sovety aviamodelistam.  
baku, azerneshar, 1954. 56 s. sill. 22sm. (v pomosh ch' aviamodelistu). 2.000 ekz.  
lr. 5k.--NAazerbaydzh. yaz.- (55-2884)

629.135.2(086.5)

SO: Knizhuaya Letopis', Vol. 7, 1955

U2109-66 FST(d)/TWT(m)/EWT(w)/FST(r)/T-2/TWT(k)/EWT(h)  
ACC NRT AP6023583

LIP(c) SN  
SOURCE CODE: UR/0084/66/000/007/0020/0021

AUTHOR: Trunchenkov, N. (Engineer); Ryzhikov, S. (Engineer)

43

ORG: none

B

TITLE: Versions of the AN-24 configuration

SOURCE: Grazhdanskaya aviatsiya, no. 7, 1966, 20-21

TOPIC TAGS: passenger aircraft, transport aircraft, turboprop aircraft/AN-24 turboprop aircraft

ABSTRACT: The twin-turboprop Antonov An-24 transport, intended for medium-range operation, is now available in an executive version with both two-compartment and three-compartment arrangements. The two-compartment model, with a crew of five, carries 28 passengers in one compartment and has a lounge separated from the flight deck by a baggage compartment, a wardrobe, and a small galley; its second compartment, with sleeping and sitting accommodations, is fully separated from the main compartment and assures maximum comfort and privacy. The three-compartment model has a private compartment similar to the one described above, but its forward fuselage has two compartments with couches for 16 passengers and worktables between them; it is designed for 20 passengers. Both of these versions can be easily adapted for carrying 38 passengers. Eight versions of the AN-24 are described and shown graphically. [ATD PRESS: 5050-F]

SUB CODE: 01 / SUBM DATE: none

Aircraft design 20

Card 1/1 af

TRUNCHENKOVA, Ye.S.

State of fat and lipid metabolism in diabetes mellitus and  
the effect of vegetable oil. Ter. arkh. 35 no.4:95-102 Ap'63  
(MIRA 17:1)

1. Iz kafedry 1-y terapii (zav. - prof. G.M.Shershevskiy)  
Novokuznetskogo instituta uchebno-sistemstvovaniya vrachey,

TRUNCHENKOVA, Ye.S. (Novokuznetsk)

Effect of antidiabetic sulfanilamide preparations of fat and  
lipoid metabolism in diabetes mellitus. Klin. med. 41 no.7:  
(MIRA 16:12)  
63-67 Jl '63

1. Iz kafedry 1-y terapii (zav. - prof. G.M. Shershevskiy)  
Novokuznetskogo instituta usovershenstvovaniya vrachey.

TRUNCHENKOVA, Ye. S.

Effect of some neurotropic substances on the effectiveness of  
insulin therapy in diabetes mellitus. Terap. arkh. no.9:89-94  
'61. (MIRA 15:2)

1. Iz kafedry l-y terapii (zav. - prof. G. M. Shershevskiy)  
Stalinskogo instituta usovershenstvovaniya vrachey.

(AUTONOMIC DRUGS) (INSULIN SHOCK THERAPY)  
(DIABETES)

TRUNDA, Dusan; DUFEK, Josef

Roughing of trapezoidal threads by circular milling. Stroj  
vyr 12 no. 5:362-363 My '64.

1. Machine Tool Factories National Enterprise, Olomouc Plant.

JURCA, F.; DOLEZAL, B., prof., inz., dr.; KRATOCHVIL, F., inz.;  
POLANSKI, B., prof., inz., dr.; POLENO, Z., inz.; TRUNEK, F., inz.;  
ZAKOPAL, V., inz.; SCHWARZ, J., inz.

Discussion on the gradual shelterwood cutting system. Les cas  
9 no.4/5:497-500 '63.

1. Lesnicka fakulta, Vysoka skola zemedelska, Brno (for Dolezal and Polansky).
2. Lesni zavod Petrohrad; poslanec Narodniho Shromazdeni (for Jurca).
3. Lesni zavod Kacov (for Kratochvil)
4. Lesnicko-technicka skola, Trutnov (for Poleno).
5. Podnikove reditelstvi Statnich lesu Teplice (for Trunec and Schwarz).
6. Vyzkumny ustav lesniho hospodarstvi a myslivosti (for Zakopal)

TRUNECEK, V.

Heating and cold emission of oxide thermionic cathodes. Cs cas  
12 no.5/6:578-583 '62.

1. Katedra elektroniky a vakuove fysiky, Universita J.E.  
Purkyne, Brno.

TRUNECEK, Vaclav

Sixtieth birthday of Professor Antonin Vasicek. Pokroky  
mat fyz astr 8 no.6:346-347 '63.

S/058/62/000/004/148/160  
A061/A101

AUTHOR: Truneček, V.

TITLE: The torch arc

PERIODICAL: Referativnyy zhurnal, Fizika, no. 4, 1962, 61, abstract 4Zh419  
("Spisy přírodověd. fak. univ. Brně", 1961, no. 5, 225 - 256, Czech;  
Russian summary)

TEXT: It is shown that if the power output in the torch discharge is such that the electrode, on which the discharge burns, becomes incandescent and melts, the discharge properties change substantially and become similar to those of the arc discharge. The lines of the electrode material appear in the spectrum of the "torch arc"; the electrode burns out in the same way as in the arc; the plasma conductivity, and also its radiation intensity, rise sharply. The numerous data available in the literature are used to compare the torch discharge and the torch arc with the glow and arc discharges, respectively. There are 38 references.

D. Orlinskiy

[Abstracter's note: Complete translation]

Card 1/1

TRUMECEK, V.

SCIENCE

TRUMECEK, V. Time study of a torch discharge. p. 205.

No. 384, 1957.

Monthly Index of East European Acquisitions (EEAI) LC, Vol. 7, No. 12, Dec. '58

45271

Z/037/62/000/005-6/021/049  
E192/E382

1. 17/1

26.1640

AUTHOR: Trunecák, V.

TITLE: Overheating and cold emission from thermionic oxide cathodes

PERIODICAL: Československý časopis pro fysiku, no. 5-6, 1962,  
578 - 583

TEXT: A high electron emission can be produced in some current electron tubes, even when their oxide cathode is not heated. This is achieved by connecting the tube as a diode, heating the cathode and applying the anode voltage; the heater source is then disconnected and the emission of the cathode gradually decreases but this is remedied by increasing the anode voltage. This might lead to an increase in the anode current so that the anode voltage can again be reduced and the emission is stabilized at a comparatively low value of the anode voltage. A rise in the cathode temperature is observed during this process and this can be regarded as the cause of the electron emission. The cathode is heated spontaneously without heater current by being bombarded by the positive ions which are produced in the tube from excess gases and by passage of the

Card. 1/3

Overheating and ....

Z/057/62/000/005-6/021/049  
E192/E382

anode current through the emissive layer. In directly heated tubes the heating is also due to passage of the anode current through the cathode to its sensitive emitting spot. The decisive factor in this emission effect is not so much the kinetic energy of the ions impinging on the cathode but the electric field which the ions form between the base metal and the emission surface of the substance. The intensity of this field is such that either the field-emission effect from the base metal is produced or Townsend avalanches occur in the emissive material. The electrons produced in the avalanches leave the emissive material and produce the electric current. The primary layer of the positive ions can also be produced directly in the emissive substance when stimulating the emission on a cooling cathode. The electrons emitted by the lower (hotter) layer of the substance produce ionization in the upper layer. An increased anode voltage imparts to the electrons the energy necessary for ionization. Experiments showed that provided the current density was less than  $4 \text{ A/cm}^2$ , the cold emission could remain stable over a considerable time interval.

Card 2/3

Overheating and ....

Z/037/62/000/005-6/021/049  
E192/E382

There are 5 figures.

ASSOCIATION:

Katedra elektroniky a vakuové fysiky University  
J.E. Purkyné, Brno (Department of Electronics  
and Vacuum Physics of the J.E. Purkyné University,  
Brno)

Card 5/3

Z/037/60/000/005/021/056  
E192/E382

AUTHOR: Truneček, V.

TITLE: Unipolar High-frequency Discharge at Atmospheric Pressures

PERIODICAL: Československý časopis pro fysiku, 1960,  
No. 5, p. 410

TEXT: When the output power in a high-frequency corona discharge is increased a torch-type discharge is obtained. The current carriers in a high-frequency corona are produced mainly by the collisions of the electrons which are accelerated by the electric field; in a torch-type discharge the degree of electric ionization is negligible as compared with the thermal ionization. The transition from the electric ionization to the thermal ionization causes the change from a high-frequency corona to a torch. At high powers a torch discharge can appreciably heat up the material of the electrodes. In the materials having a high melting point the electron emission due to the electric field is replaced by thermal emission and a torch discharge changes its properties. The characteristics of such a discharge are similar to those of

Card 1/2

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Z/037/60/000/005/021/056  
E192/E382

Unipolar High-frequency Discharge at Atmospheric Pressures

an arc and this discharge can be referred to as a torch arc.  
The transition from a high-frequency corona to a torch discharge  
and then to a torch arc was studied by means of the spectra  
of these discharges and by the photographing of the process  
occurring at the electrodes.

ASSOCIATION: Katedra experimentální fysiky university v  
Brně (Chair of Experimental Physics of  
Brno University)

✓  
-

Card 2/2

S/194/62/000/004/093/105  
D271/D302

AUTHOR: Truneček, Václav

TITLE: Torch arc

PERIODICAL: Referativnyy zhurnal, Avtomatika i radioelektronika,  
no. 4, 1962, abstract 4zh419 (Spisy přírodověd. fak.  
univ. Brně, 1961, no. 5, 225-256)

TEXT: It is shown that torch discharge characteristics are substantially changed and become similar to those of arc discharge if discharge power is so great that the discharge electrode is heated to the melting point. Lines of electrode material appear in the spectrum of the torch arc; the electrode is pitted as in an arc; plasma conductance and the intensity of its emission increase abruptly. Numerous published data are used in comparing torch discharge and torch arc with glow discharge and arc discharge, respectively. 38 references. Abstracter's note: Complete translation.

Card 1/1

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24.2120

AUTHOR: Truneček, VáclavZ/057/60/000/03/002/014  
E073/E335TITLE: Thermodynamic Equilibrium and Ionisation in the Core of  
a Torch Discharge<sup>1)</sup>.PERIODICAL: Československý časopis pro fysiku. 1960, Nr 3,  
pp 191 - 198

ABSTRACT: A torch discharge is a single-pole discharge which was observed on electrodes fed by a high-frequency voltage of about 1 kV of frequencies over 4.6 Mc/s. In a still medium such a discharge forms a vertical flame similar to that of a gas flame or a torch flame. Three sections can be distinguished, namely, the section on the electrode at the base of the discharge which consists of a bright-blue electrode surface; from this the core of the discharge, which is the brightest section of the discharge, rises directly upwards; the core of the discharge is surrounded by a less bright shell. In determining the temperature of this discharge by spectral methods, the question arose of the nature of the ionisation in the flame. This question can be elucidated by analysing the conditions of the existence of a thermodynamic equilibrium in the

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E073/E335

Thermodynamic Equilibrium and Ionisation in the Core of a Torch  
Discharge

discharge, taking into consideration the effects of some external factors on the discharge. In discussing spectral methods used for determining the temperature of a torch discharge it is shown that, so far, the question has not been clarified as to whether thermodynamic equilibrium does or does not exist in the discharge, why measurement of the temperature of the neutral particles in such a discharge based on the existence of thermodynamic equilibrium sometimes did and sometimes did not succeed and also why such considerable differences have been observed between individual measurements of the electron temperature. A brief analysis given in the paper indicates that the core of the discharge is in the quasi-isothermal state and external conditions which influence the temperature of the torch discharge fully confirm this. It is shown that an airstream changes a torch discharge into a high-frequency corona at the end of the core of the discharge. However, if the airstream reaches only the shell of the discharge, no high-frequency

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Thermodynamic Equilibrium and Ionisation in the Core of a Torch  
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corona will occur since the shell has a low conductivity and the gradient of the electric field is very small. It was found from successive high-speed photographic exposures, and also by means of spectrum analysis, that in a torch discharge which is excited by pulsating h.f. current thermal ionisation is less important than electric ionisation. The easy transition from the thermal to electric ionisation in the core of a torch discharge has not been known hitherto and therefore has not been taken into consideration in determining the parameters of such discharges. This is the reason for obtaining differing results in measuring the temperatures and the electron temperatures of this discharge and also for differing interpretations of results of such measurements. External conditions have a considerable influence on torch discharges. Acknowledgments are expressed to Professor Doctor V. Kunzl for his initiative and interest in the here described work.

ASSOCIATION: Katedra fysiky na přírodovědecké fakultě v Brně  
(Chair of Physics at the Natural Sciences Department,

SUBMITTED: January 3, 1959 Masaryk University, Brno)

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CZECHOSLOVAKIA/Electronics - Electrical Discharges in Gases and Gas H-7  
Discharge Apparatus

Abstr Jour : Ref Zhur - Fizika, No 11, 1958, No 25683

Author : Trunecok Veciar

Inst : Institute of Experimental Physics, Masaryk University, Brno,  
Czechoslovakia

Title : Investigation of Flare Discharge

Orig Pub : Spisy vyd. prirodoved. fak. Masarykuvy univ., 1957, No 4,  
205-232

Abstract : Description of an investigation of flare discharge with the  
aid of photographs made with a camera with a rotating lens.  
Bibliography, 12 titles.

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VYATSKIN, A.Ya.; POLYAKOV, A.S.; RUMYANTSEV, V.V.

Passage of electrons through solutes. Fil. 1963. No. 4. P. 1  
1963-1562. N. 164.

Leningradskiy institut mehanicheskikh i opticheskikh

ACCESSION NR: AP4034953

S/0181/64/006/005/1563/1565

AUTHORS: Vyatskin, A. Ya.; Pilyankevich, A. N.; Trunev, V. V.

TITLE: Transmission of electrons through solids

SOURCE: Fizika tverdogo tela, v. 6, no. 5, 1964, 1563-1565

TOPIC TAGS: electron, metal film, thin film, electron reflection, aluminum, copper, gold

ABSTRACT: The transmission of electrons through thin metallic films was investigated experimentally. On the basis of the new data an empirical formula for the relative integrated transmission coefficient (the ratio of the current passing through the film and the incident current  $I_0$ ) can be written in the more general form:  $\eta = \exp[-\alpha(E_0, Z)x^{1/p}]$ . Here  $x$  is the thickness of the film,  $Z$  is the atomic number of the film material, and  $E_0$  is the energy of the incident electrons. The range of sample thicknesses was from 500 to 40 000 Å and was determined to within 9%. Incident electron energies were used in the range  $4 \text{ kev} < E_0 < 30 \text{ kev}$  and ( $E_0 \approx 5 \cdot 10^{-7} \text{ a}$ ). Experimental values for  $p$  were obtained: Al - 1.9; Cu - 1.7; Au - 1.3

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Orig. art. has: 7 equations and 1 table.

ASSOCIATION: Leningradskiy institut tochnoy mekhaniki i optiki (Leningrad Institute  
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Card 2/2

TRUNIEWSKI, W.

TRUNIEWSKI, W.

"Adobe Building", P. 4. (BUDOWNICTWO WIEJSZTE, Vol. 6, No. 3, May/June  
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SO: Monthly List of East European Accessions, (EFAL), LC, Vol. 4,  
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"APPROVED FOR RELEASE: 03/14/2001

CIA-RDP86-00513R001756820007-5

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APPROVED FOR RELEASE: 03/14/2001

CIA-RDP86-00513R001756820007-5"

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TRUNIN, A.P., kand. tekhn. nauk; DERYABIN, I.M., inzh.; BESPALOV, I.V., inzh.;  
VOSKANYAN, V.A., inzh., nauchnyy red.; KAPLAN, M.Ya., red.; VOLCHOK,  
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